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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,907	06/22/2001	Charles Christian Birkner		7456

7590 06/17/2005

David F. Martinez, ATSER  
1150 Richcrest Drive  
Houston, TX 77060

EXAMINER
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STERRETT, JONATHAN G

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/887,907

Applicant(s)

BIRKNER ET AL.

Examiner

Jonathan G. Sterrett

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 June 2001.  
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-22 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) ☐ Notice of Informal Patent Application (PTO-152)  
 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Summary*

1. Claims 1-22 are pending in the application. The instant application deals with providing construction personnel with handheld computers for field use. More specifically, the invention deals with providing construction employees with the ability to access various systems which support the automation of certain construction-related tasks in the field. These include the ability to input various construction project information including time and materials information related directly to workers as well as more detailed information including information related to submittals and accessing design and planning systems. The system as disclosed is capable of providing reports once information is entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Norand's Pen-Key handheld computer (Norand)** in view of **Coble**.

Coble, Dr. Richard J; Qu, Tan; Sun, Wei; "Multimedia Communications for Construction Foremen", 1998, AACE International Transactions, pp.1-5.

**Norand's Pen-Key handheld computer is described in the following documents:**

"Norand-Payback", February 6, 1998, Norand.com, pp.1-5,  
[web.archive.org/web/19980206121604/www.norand.com/payback/pay\\_retn.html](http://web.archive.org/web/19980206121604/www.norand.com/payback/pay_retn.html),  
hereafter referred to as **Reference U1**.

"Norand – Products", February 6, 1998, Norand.com, pp.1-2,  
[web.archive.org/web/19980206114724/www.norand.com/6622.html](http://web.archive.org/web/19980206114724/www.norand.com/6622.html), hereafter referred  
to as **Reference V1**.

"Norand – Payback", February 6, 1998, Norand.com, pp.1-2,  
[web.archive.org/web/19980206121550/www.norand.com/payback/pay\\_intro.html](http://web.archive.org/web/19980206121550/www.norand.com/payback/pay_intro.html),  
hereafter referred to as **Reference W1**.

Wood, Michael, "Fighting the paperwork nemesis", March 1996, American Gas  
v78n2, pp.32-33, hereafter referred to as **Reference X1**.

"Norand – Training", February 6, 1998, Norand.com, pp.1-2,  
[web.archive.org/web/19980206120946/www.norand.com/sup\\_ti\\_descrip\\_MS.html](http://web.archive.org/web/19980206120946/www.norand.com/sup_ti_descrip_MS.html),  
hereafter referred to as **Reference U2**.

"Powering better customer service. (Boston Edison implements mobile  
computing solution)(Company Operations)", May 1997, Communications News, v34, n5,  
p50, Dialog 02070908 19414033, hereafter referred to as **Reference V2**.

Regarding **Claim 1**, Norand teaches:

**a handheld computer adapted to collect construction quality data from the field;**

Reference X1 page 2 paragraph 3 line 1-3, Norand Pen\*Key handheld computers are used in the field.

Reference X1 page 2 paragraph 3 line 9-10, inspection reports (i.e. construction quality data) from the field are collected by Norand system.

**a planning system to track budgetary information;**

Reference X1 page 3 paragraph 2 line 2-4, time and materials for construction contractors (i.e. budgetary information) is tracked by the Norand system.

**a construction system to track material consumption and progress for each project,**

Reference X1 page 2 paragraph 3 line 7-10, project information and time sheets for employees tracked by system.

**the construction system adapted to receive quality data collected from the handheld computer,**

Reference X1 page 2 paragraph 3 line 9-10, inspection reports (i.e. construction quality data) from the field are collected by Norand system –see line 3-4, this information is uploaded to the mainframe (i.e. construction system).

**store daily project reports**

Reference X1 page 2 paragraph 3 line 8-10, forms (i.e. reports) are used to store information that was previously hand written. These forms include daily time sheets and project information (i.e. daily project reports).

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**and generate key indicator reports**

Reference U1 page 4 paragraph 11 line 1-3, reports collected from data entered into the system can be generated of any key indicators regarding worker performance.

Norand does not teach:

**a design system to perform site engineering assessment;**

Coble teaches:

**a design system to perform site engineering assessment;**

Page 4 paragraph 1 line 5-7, handheld system incorporates computer aided design (CAD) drawings to record construction activities (i.e. site engineering assessment).

Page 4 paragraph 1 line 12-15, construction activities can be assessed and recorded using computer aided design (CAD) system.

Both Coble and Norand disclose providing wireless mobile computing capability to field workers, thus both Coble and Norand are analogous art.

Coble teaches that providing construction crews in the field with mobile wireless devices improves their productivity (Page 3 paragraph 2 line 1-2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Norand, regarding providing field workers with mobile computers, with providing mobile workers with the capability of providing site engineering assessments, as taught by Coble, because it would improve the productivity of construction workers at the job sites.

Regarding **Claim 2**, Norand and Coble teach all the limitations of Claim 1 above, and Norand also teaches:

**wherein the handheld computer collects work-in-progress data.**

Reference X1 page 3 paragraph 2 line 4-5, work in progress data is collected by Norand's handheld computer.

Regarding **Claim 3**, Norand and Coble teach all the limitations of Claim 1 above, and Norand also teaches

**wherein the handheld computer collects project and contract identification,**

Reference X1 page 3 paragraph 2 line 4-5, contractor (i.e. contract identification) data is collected by Norand's handheld computer.

Reference X1 page 2 paragraph 3 line 9, contract information is collected by handheld computer.

**inspector identification,**

Reference X1 page 2 paragraph 3 line 9-10, inspection reports can be inputted into the Norand computer. An inspection report contains information about what was inspected, and also contains who was performing the inspection.

Norand does not teach:

**wherein the handheld computer collects item number, location, and one or more description of activities.**

Coble teaches:

**wherein the handheld computer collects item number, location, and one or more description of activities**

Page 3 Figure 3 – This form contains Unit No (i.e. item number) and description of activities (e.g. checklists for pouring concrete – formwork) as well as one description of activities “Pour Check Out Sheet” describing the pouring of concrete.

Page 4 paragraph 1 line 11-15, activities related to change notices are described – see also Figure 4.

Both Coble and Norand disclose providing wireless mobile computing capability to field workers, thus both Coble and Norand are analogous art.

Coble teaches that providing construction crews in the field with mobile wireless devices improves their productivity (Page 3 paragraph 2 line 1-2).



It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Norand, regarding providing field workers with mobile computers, with providing mobile workers with the ability of the handheld computer to collect item number, location, and one or more description of activities, as taught by Coble, because it would improve the productivity of construction workers at the job sites.

Regarding **Claim 4**, Norand and Coble teach all the limitations of Claim 1 above, and Norand also teaches:

**wherein the handheld computer collects labor related information.**

Reference X1 page 2 paragraph 3 line 8, daily time sheets (i.e. labor related information) are collected by Norand's handheld computer.

Regarding **Claim 5**, Norand and Coble teach all the limitations of Claim 1 above, and Norand also teaches:

**wherein the handheld computer collects labor type, quantity and hours.**

Reference U1 page 4 paragraph 9 line 1-8, Norand's computer records the driver time associated with a particular truck (i.e. labor type) and the number of hours a driver works.

Reference U1 page 4 paragraph 11 line 1-3, information on delivery information (i.e. quantity of goods delivered) is collected by the handheld computer.

Regarding **Claim 6**, Norand and Coble teach all the limitations of Claim 1 above, and Norand also teaches:

**wherein the handheld computer collects equipment information.**

Reference U1 page 4 paragraph 9 line 4-5, the driver enters their truck number (i.e. equipment information) into the handheld computer.

Regarding **Claim 7**, Norand and Coble teach all the limitations of Claim 1 above, and Norand also teaches:

**wherein the handheld computer collects equipment type,**

Reference U1 page 4 paragraph 9 line 4-5, the driver enters their truck number, (i.e. equipment type).

**quantity,**

Reference U1 page 3 paragraph 3 line 1-3 & paragraph 4 line 1-4, bill of lading document information is entered into the computer. The bill of lading contains quantity information.

**hours in use,**

Reference U1 page 2 paragraph 2 line 1-4, The hours in use of a truck is recorded, since the time stamp for each stop is recorded. Thus at the end of the day, the total time a truck was being driven as well as stop time is recorded.

**and stand-by hours.**

Reference U1 page 2 paragraph 2 line 3-4, standby time is recorded when a driver arrives or leaves or leaves at a stop. This time is recorded in hours and minutes for proof of delivery to a customer.

Regarding **Claim 8**, Norand and Coble teach all the limitations of Claim 1 above, and Norand also teaches:

**wherein the handheld computer collects submittal information.**

Reference X1 page 3 paragraph 1 line 4-5, submittal information is collected by the handheld computer and can be printed off to provide documentation that can be submitted to comply with regulations.

Regarding **Claim 9**, Norand and Coble teach all the limitations of Claim 1 above, and Norand also teaches:

**wherein the handheld computer collects weather condition, comments, and an inspector name.**

Reference X1 page 2 paragraph 3 line 9-10, inspection reports would include an inspector's name and comments.

Norand also teaches the completion of daily work forms on the computer where they had previous been done by hand.

Reference X2 page 2 paragraph 1 line 1-3, daily work forms were automated by the Norand wireless handheld system.

Norand does not teach:

**wherein the handheld computer collects weather condition.**

Coble teaches the use of handheld wireless computers to automate the entry of daily data by construction foremen, including adding comments about daily problems (Page 3 paragraph 7 line 3-4, short descriptions of daily construction-related problems entered).

Both Coble and Norand disclose providing wireless mobile computing capability to field workers, thus both Coble and Norand are analogous art.

Coble teaches that providing construction crews in the field with mobile wireless devices improves their productivity (Page 3 paragraph 2 line 1-2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Norand, regarding providing field workers with mobile computers, with providing mobile workers with the ability of the handheld computer to collect short descriptions of daily construction related problems, as taught by Coble, because it would improve the productivity of construction workers at the job sites.

Norand and Coble do not teach where weather information is collected by the handheld computer.

Official Notice is taken that it is old and well known in the art for weather to have an impact on construction projects, including to cause delays due to weather-related problems. Weather delays are known to impact a construction schedule and are tracked so that progress against a deadline can take into weather delays and be more accurate in estimating the completion timing.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the collective teachings of Norand and Coble, regarding providing handheld computers that automate the entering and collection of daily report data, to include the step of entering weather data, because it would improve the scheduling process for construction projects by automatically tracking weather-related impacts on schedule.

Regarding **Claim 10**, Norand and Coble teach all the limitations of Claim 1 above, and Norand also teaches:

**wherein the handheld computer hot-syncs collected information to a server.**

Reference U2 page 2 paragraph 4 line 5, Norand uses a Nor\*Ware 6920 Communications Server for communication with units in the field. This unit receives information from the handheld unit in the field.

Reference W1 page 1 paragraph 9 line 6-10, every time a driver enters information into his handheld computer, the information is hot-synced back to the wireless LAN.

Regarding **Claim 11**, Norand teaches all the limitations of Claim 10 above, and Norand also teaches:

**wherein the collected information is hot-synced wirelessly using a wireless handheld unit.**

Reference W1 page 1 paragraph 9 line 6-10, every time a driver enters information into his handheld computer, the information is hot-synced back to the wireless LAN.

Regarding **Claim 12**, Norand teaches all the limitations of Claim 10 above, and Norand also teaches:

**a modem coupled to the handheld computer, wherein the information can be hot-synced using a modem.**

Reference W1 page 1 paragraph 9 line 6-10, every time a driver enters information into his handheld computer, the information is hot-synced back to the wireless LAN.

Reference V1 page 1 paragraph 7 line 2, the Norand computer can use fax-modem cards.

Regarding **Claim 13**, Norand teaches all the limitations of Claim 10 above, and Norand also teaches:

**a hot-sync cradle coupleable to the handheld computer, the cradle hot-syncing the collected information for transmission to a server.**

Reference W1 page 2 paragraph 1 line 3-5, driver can put the handheld computer in a cradle in a truck for hot-syncing the collected information for transmission to a server.

Reference U2 page 2 paragraph 4 line 5, Norand uses a Nor\*Ware 6920 Communications Server for communication with units in the field. This unit receives information from the handheld unit in the field.

**Claims 14-22** recite similar limitations as those recited in **Claims 1-13** above, and are therefore rejected under the same rationale.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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US 6,633,900 by Khalessi discloses a mobile crew management system for distributing assignments to mobile work crews.

Phillips, John T Jr; "Pen Computers and digital forms", Apr 1994, Records Management Quarterly, v28n2, pp.46-49, Dialog 00908569 95-57961.

Business Wire, "Fujitsu-ICL and Synergistics Team Up to Delivery Instant Information to Transportation Companies", Nov 1998, Dialog 03452845.

Willis, William, "Connecting to the Internet faster, cheaper and easier.", March 1997, T H E Journal (Technological Horizons in Education), v24, n8, p10(4), Dialog 02055410 19282419.

PR Newswire, "BostonCoach Leverages Wireless-Enabled Microsoft CE Platform to Delivery Better Service and Increase Efficiency", Oct 1998, Dialog 05886754 53076916.

PR Newswire, "Utility Companies Now have a Cost-Effective and Simple Solution to Wireless Access Data on their Corporate Intranets and the Internet", Jan 1998, Dialog 09976278.



Business Wire, "GoAmerica Offers \$499 Wireless Intranet and Internet Hardware and Unlimited Service Bundle for Corporate End Users", Sept 1997, Dialog 05237162.

GoAmerica Press Release", November 1997,  
[www.archive.bibalex.org/web/19980126204817/goamerica.net/pr20.htm](http://www.archive.bibalex.org/web/19980126204817/goamerica.net/pr20.htm).

Basu, Abhi, "Impact of Information Technology on Construction Project Management", 1996, Transactions of AACE International, pp. IT41.

Webb, Warren, "Miniature technology fashions wearable computers", Dec 1998, EDN, v43, n6, p.83.

Stowe, Gene, "High-tech tracking meets construction industry", Feb 7, 2000, Tribune Business Weekly, South Bend, v10, Iss43, pp.10.

"Companies develop palmtop software for civil engineers", Mar 2000, Civil Engineering, v70, n3, p.32.

Roe, Andrew; Phair, Matthew; "Connection Crescendo; Despite technological hurdles, a growing list of participants are using the Web to polish project performance", May 1999, ENR, Vol. 242, Iss. 19, p.22.

Odum, Jeffrey, "The integrations of Design, Construction, and Validation – Solving a Validation Challenge", Nov 1998, Biopharm, v11,n11, p.36.

Schreiner, Judy, "Measuring the Rain on the Plain Makes Sure No One is a Pain", Jun 1996, ENR, vol. 236, Iss 23, p.27.

Baweja, Satinder, "Use of Statistical Control Charts in Construction", 1997, AACE International Transactions, p.279.

Knoke, John R.; Jentzen, Gary H.; "Developing an As-Built Schedule From Project Records", 1996, Transactions of AACE International, p.CS31.

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Sterrett whose telephone number is 703-305-0550. The examiner can normally be reached on 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 703-305-9643. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JGS

JGS 6-10-2005



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